

U.S.S.N. 10/763,876

Filed: January 23, 2004

AMENDMENT AND RESPONSE TO OFFICE ACTION

Amendment

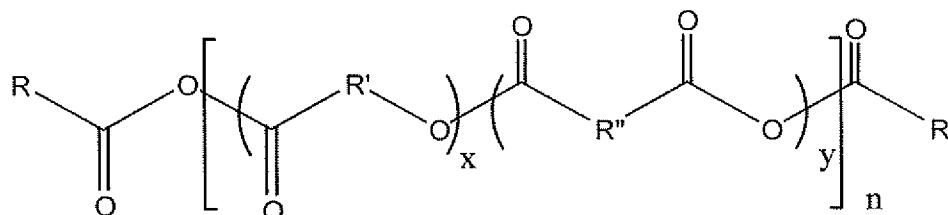
In the Claims

1. (Currently amended) A drug delivery composition comprising a biodegradable poly(ester-anhydride) copolymer comprising random ester or ester-anhydride amide bonds along the polymer chain wherein the polymer is formed from an unsaturated fatty acid and at least one alkane-dicarboxylic acid or alkyl hydroxyl acid, and a biologically active agent.

2. (original) The composition of claim 1, wherein the biologically active agent is selected from the group consisting of small drug molecules, peptides and proteins, DNA and RNA complexes with cationic molecules.

3. (original) The composition of claim 1, wherein the composition is in a form suitable for administration by injection.

4. (original) The composition of claim 1, wherein the polymer is a poly(ester-anhydrides) with the formula:



where R is a linear or branched aliphatic or aromatic moiety when $x+y=1$ and x is not 0, or R is an unsaturated fatty acid with at least one *cis*-double bond, or an ester of ricinoleic acid,

R' is a ricinoleic acid residue,

R'' is an aliphatic or aromatic moiety, and

n is an integer from 1 to 200.

AMENDMENT AND RESPONSE TO OFFICE ACTION

5. (original) The composition of claim 4, wherein R is a natural or synthetic fatty acid selected from the group consisting of: oleic acid, ricinoleic acid, and linolenic acid.

6. (Currently amended) The composition of claim 1, wherein the poly(ester-anhydride) is formed from at least one the-dicarboxylic acid is selected from the group consisting of C₄ to C₂₂ linear alkane dicarboxylic acids, dimer erucic acid, dimer oleic acid and non-linear fatty acid-ester derivatives of ricinoleic acid, fumarate or succinate and mixtures thereof.

7. (original) The composition of claim 4-6, wherein the dicarboxylic acid is a derivative of oligomers or polymers of hydroxy acids.

8. (original) The composition of claim 1, wherein the polymer is prepared from purified ricinoleic acid, wherein ricinoleic acid comprises at least 90% by weight of the polymer.

9. (original) The composition of claim 1, wherein the biologically active agent is encapsulated in microparticles or nanoparticles.

10. (original) The composition of claim 2, wherein the biologically active agent is selected from the group consisting of the group consisting of antibacterial, anti-inflammatory and anticancer agents, antidepressants, analgesics and local anesthetics.

11. (Currently amended) A method for treating a patient in need of treatment comprising injecting a drug delivery composition into the patient, wherein the composition a biodegradable poly(ester-anhydride) copolymer comprising random ester or ester-anhydride amide bonds along the polymer chain wherein the polymer is formed from, formed from an unsaturated fatty acid and at least one alkane dicarboxylic acid or alkyl hydroxyl acid, and a biologically active agent.

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12. (original) The method of claim 11 wherein the injection is administered intraperitoneally, intradermally, intramuscularly, intratumorally, into body cavities, into bone, and into internal organs.

13. (original) The method of claim 11, wherein the biologically active agent is selected from the group consisting of small drug molecules, peptides and proteins, DNA and RNA complexes with cationic molecules.

14. (original) A method for making a drug delivery composition comprising mixing a biologically active agent with a polymer comprising ester or ester-anhydride bonds, wherein the polymer is formed from an unsaturated fatty acid and at least one alkane-dicarboxylic acid or alkyl hydroxyl acid to form a homogenous mixture.